

**REMARKS**

Claims 1-19 remain in this application. Claims 1-19 are rejected.

Applicants submit herewith a copy of a reference and an Information Disclosure Citation and Information Disclosure Statement referencing same.

Claims 1-19 are rejected as obvious over the Murayama reference under 35 U.S.C. §103(a). The applicant herein respectfully traverses this rejection. For a rejection under 35 U.S.C. §103(a) to be sustained, the differences between the features of the combined references and the present invention must be obvious to one skilled in the art.

It is respectfully submitted that a *prima facie* case of obviousness has not been established in the rejection of claims 1-19. "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. *In re Vaeck*, 947 F.2d

488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP §706.02(j) "Contents of a 35 U.S.C. §103 Rejection".

A "curved monochromator" is recited in claims 1, 6, and 10 and is a feature not disclosed by the Murayama reference. Furthermore, the claims recite an X-ray source that emits divergent X-rays which are converged by the curved monochromator. This convergence of X-rays applies the X-rays to the substrate over a range of angles of incidence. This is described in pages 4 - 5 and 23 of the specification. Applying the X-rays over such a range permits sensing of X-rays over a range of angles of reflection without moving the X-ray irradiation unit. This sensing of X-rays reflected at varying angles permits measurements to be made using intensity versus angle data without repositioning of the substrate relative the X-ray source.

The quarternary crystal monochromator described in Murayama reference does not serve to converge X-rays. Contrary to the Examiner's contention that one skilled in the art would use a curved monochromator in the Murayama device motivated by "the inherent benefits to increase focusing and thus usable X-rays," such motivation could not exist. The Murayama device seeks to measure reflection at one angle at a time which is mechanically varied to produce intensity versus angle data. This is why the Murayama device scans using a single beam. Since the Murayama device mechanically scans to measure at different angles, there is no

reason to use the claimed curved monochromator to direct beams over a range of angles. Furthermore, the X-ray source in Murayama is not a divergent source as used in the present invention but one that produces a beam as shown. Hence, there is no need to converge the x-rays. Still further, since the source in Murayama is not stated to be divergent, use of a curved monochromator would not effect the claimed convergence of X-rays but merely reflect the single beam illustrated in the figures. And finally, it is noted that the quarternary crystal monochromator lacks any converging function and hence could not lead one to adapt the curved monochromator to the Murayama device.

Many features of the claims are not disclosed in the Murayama reference. For example, claim 10 discloses "a measuring unit." This feature is not described in Murayama. Also, claim 15 discloses "a shield member", "a thin film deposition opening", "a sample thin film deposition opening" and "rotary drive". These features are not described in Murayama.

Thus, it is respectfully submitted that the rejected claims are not obvious in view of the cited reference(s) for the reasons stated above. Reconsideration of the rejections of claims 1-19 and their allowance are respectfully requested.

Applicant respectfully requests a three month extension of time for responding to the Office Action. Please charge the fee of \$920 for the extension of time to Deposit Account No. 10-1250.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited. Please charge any deficiency or credit any overpayment to Deposit Account No. 10-1250.

Respectfully submitted,  
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enc: IDS, IDC and one reference.